AMENDMENT TO THE CLAIMS

Please **AMEND** claims 1, 2, 13, 21, and 26 as follows.

Please **ADD** claims 27 and 28 as follows.

Please **CANCEL** claims 3, 4, 6, 12, 16-20, 22, 24, and 25 without prejudice or disclaimer.

A copy of all pending claims and a status of the claims is provided below.

1. (currently amended) A method for machining a workpiece made from a titanium-based alloy, comprising:

removing at least one of surface oxides and further covering layers from regions of the workpiece;

~~a)~~ heating ~~of~~ the workpiece to an annealing temperature of approximately 973 K in a hydrogen-containing atmosphere, wherein the workpiece takes up hydrogen, and wherein the hydrogen containing atmosphere is under a pressure of approximately 5 x 10^3 Pa;

~~b)~~ cooling ~~of~~ the workpiece in the hydrogen-containing atmosphere;

~~c)~~ metal-removing machining ~~of~~ the workpiece; and

~~d)~~ heating ~~of~~ the workpiece in a hydrogen-free atmosphere, wherein hydrogen is released.

2. (currently amended) The method as claimed in claim 1, wherein the heating the workpiece in the hydrogen-free atmosphere is ~~heated~~ performed in a vacuum in order for the hydrogen to be released.

3. (canceled)

4. (canceled)

5. (previously presented) The method as claimed in claim 1, wherein an annealing time in the hydrogen-containing atmosphere is at least 2 hours.

6. (canceled)

7. (previously presented) The method as claimed in claim 2, wherein the vacuum is at least $2 \cdot 10^{-3}$ Pa.

8. (previously presented) The method as claimed in claim 1, wherein an annealing temperature in the hydrogen-free atmosphere is at least 773 K.

9. (previously presented) The method as claimed in claim 1, wherein the heating is carried out inductively.

10. (previously presented) The method as claimed in claim 1, wherein a hydrogen concentration in the workpiece after cooling is less than 1.5% by weight in titanium.

11. (previously presented) The method as claimed in claim 10, wherein the hydrogen concentration is 0.5% by weight.

12. (canceled)

13. (currently amended) The method as claimed in claim [[12]]1, wherein the at least one of surface oxides and further covering layers are removed by an etching solution.

14. (previously presented) The method as claimed in claim 13, wherein the etching solution is a mixture comprising H_2O, HNO_3, HF and H_2O_2.

15. (previously presented) The method as claimed in claim 14, wherein the etching solution is a mixture of 50 ml of H_2O, 50 ml of HNO_3, and 10 ml of a solution of [12 ml of HF + 70 ml of H_2O_2].

16. – 20. (canceled)

21. (currently amended) An alloy for producing a workpiece made from a titanium-based alloy, comprising ~~elemental lanthanum combined with~~ TiAl6V4~~, the alloy~~ having a lanthanum content of 0.3 – [[3]]1.5 atomic%,

wherein the lanthanum is precipitated into precipitates of pure lanthanum devoid of oxygen and nitrogen,

the precipitates have a mean size of 12 µm, and

a distribution of the precipitates is restricted to grain boundaries and a grain interior between dendrites and a cast microstructure.

22. (canceled)

23. (previously presented) The alloy of claim 21, wherein the alloy is a $\alpha + \beta$ alloy.

24. (canceled)

25. (canceled)

26. (currently amended) A method for machining a workpiece made from a titanium-based alloy, comprising:

removing at least one of surface oxides and further covering layers from the workpiece;

after the removing, heating the workpiece in a hydrogen-containing atmosphere to ~~a~~ an annealing temperature of at least 773 K, ~~wherein~~ during which the workpiece takes up hydrogen, wherein the hydrogen-containing atmosphere is under a pressure of approximately 5×10^3 Pa;

after the heating to the annealing temperature, cooling the workpiece in the hydrogen-containing atmosphere;

after the cooling, metal-removing machining the workpiece; and

after the machining, heating the workpiece in a hydrogen-free atmosphere, wherein the hydrogen is released.

27. (new) The method as claimed in claim 1, wherein the workpiece comprises TiAl6V4 with a lanthanum content in a range of 0.3 to 1.5 atomic%.

28. (new) The alloy of claim 21, wherein the lanthanum is completely precipitated.